FIVE-YEAR REVIEW REPORT
FISHER-CALO SUPERFUND SITE
KINGSBURY, INDIANA
SEPTEMBER, 2000

I. INTRODUCTION

Section 121(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by SARA and Section 300.430(f)(4)(ii) of the National Contingency Plan (NCP), require that periodic (no less often than five years) reviews are to be conducted for sites where hazardous substances, pollutants or contaminants remain at the site above levels that will not allow for unlimited use or unrestricted exposure following the completion of all remedial actions for the site. The purpose of such a review is to assess whether the remedial actions implemented continue to be protective of human health and the environment. This review focuses on the protectiveness of the Fisher-Calo Superfund Site (Site) located in Kingsbury, Indiana.

The United States Environmental Protection Agency (U.S. EPA) has established a three-tier approach (with a sub-tier Level Ia) to conducting Five-Year Reviews, the most basic of which provides a minimum protectiveness evaluation (Level Ia review). U.S. EPA contemplates that a Level I review will be appropriate in all but relatively few cases where site-specific considerations suggest otherwise. The second and third levels (Level II and Level III) of review are intended to provide the flexibility to respond to varying site-specific considerations, employing further analysis. Site-specific considerations, including the nature of the response action, the status of on-site response activities, and the proximity to populated areas and sensitive environmental areas determine the level of review for a given site. A Level I review is being conducted for the Fisher-Calo Superfund Site.

OSWER Directives 9355.7-02 (Structure and Components of Five-Year Reviews, May 23, 1991), 9355.7-02A (Supplemental Five-Year Review Guidance, July 26, 1994) and 9355.7-03A (Supplemental Five-Year Review Guidance, December 21, 1995) provide that U.S. EPA will conduct Five-Year Reviews as a matter of policy (Policy Review) at sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of a remedial action, but the remedial action goals specified in a Record of Decision (ROD), will require five or more years to attain, e.g. long-term response action (LTRA) sites. The ROD at the Fisher-Calo Superfund Site established soil and groundwater clean up standards which would allow for eventual unlimited use of groundwater. To date, these groundwater standards have not been achieved. As a result, groundwater extraction & treatment systems and a soil treatment system continue to operate at the Site.

The Fisher-Calo Responsible Party Group has conducted the remedial actions at the Superfund

Site in accordance with the ROD (signed August 1990). Remedial Design(RD)/Remedial Action(RA) Consent Decree(CD) (entered February 1992), and ROD Amendment (signed September 1997). The remedial actions selected for restoration at the Site are effective and protective of human health and the environment.

II. SITE HISTORY AND CONDITIONS

Background

The Fisher-Calo Site is located in the Kingsbury Industrial Development Park (KIDP) in La Porte County, Indiana (Refer to figures). The KIDP is located in the southeast section of La Porte County, approximately 12 miles southeast of La Porte, Indiana. The communities of Kingsbury, 1.9 miles to the northwest, and Kingsford Heights, 1.6 miles to the southwest, are the major population centers located near the site.

The Fisher-Calo Site is located on three areas at KIDP: the One-Line Road property, the Two-Line Road property and the Space Leasing property. The Kingsbury Park One-Line Road property is bordered to the north and south by grasslands and buildings. The area west of the One-Line property contains scattered woodlands and fields. Travis Ditch and Kingsbury Creek parallel the western border of the facility.

The KIDP Two-Line Road property is located one mile east of the One-Line property. The land between the One-Line property and Two-Line property, as well as along the eastern and southern side of the Two-Line facility, is often under cultivation with corn or soybeans. The area north of the Two-Line property and across Hupp Road (the main road in and out of the complex) is the location of abandoned munitions bunkers surrounded by grassland. To the south of the facility, the land consists of scattered woodlands and grassland.

The Space Leasing property is approximately two miles east of the Two-Line Road property on the north side of Hupp Road, and is surrounded by munitions bunkers to the west and cropland to the north and south. To the east of Space Leasing, at the end of Hupp Road, is the Kingsbury Fish and Wildlife area operated by the Indiana Department of Natural Resources.

A number of production wells are located near the Fisher-Calo Site. Three production wells are located near the Site in the industrial park, and several residential and municipal wells are installed west and southwest of the Site.

Fisher-Calo and various subsidiaries began operations at KIDP in the early 1970’s. The Site facilities were used for processing and distributing solvents, metal finishing supplies and other industrial chemicals. Fisher-Calo also operated a solvent reclamation facility on the Site for several years to recover and resell paint and metal cleaning solvents. Chemical wastes were either stored in metal drums and buried, or stockpiled on the Site. In addition, wastes were disposed of directly on the ground.

Industrial facilities on the One-Line Road property caught on fire in March 1978. Fisher-Calo's solvent reclamation building, several bulk storage tanks, and an estimated 20,000 drums of chemical wastes and solvents were destroyed. As a result of the fire, all residents within a five mile radius of the Site were evacuated. The Indiana State Board of Health (ISBH) and other regulatory agencies then began periodic inspections at the Fisher-Calo operations.

A number of violations including buried drums and waste were discovered over the next few years. In February 1982, USEPA's Field Investigation Team (FIT) conducted a Site investigation which indicated elevated levels of organic compounds in the groundwater and surface soils. USEPA performed various removal actions of storage tanks, surface drums and buried drums before a Record of Decision (ROD) was signed in August 1990. A Consent Decree (CD) was signed in 1991 with the private parties responsible for the contamination to perform a comprehensive remedial action at the Site. The remedial action outlined in the 1990 ROD and 1991 CD was updated in a September 1997 ROD amendment in order to include changes in the remedial action of soil areas at the Site.

Remedial Planning Activities

Remedial planning began at Fisher-Calo as the Site was proposed for the National Priorities List (NPL) on December 30, 1982. The Site became a final NPL listing on September 8, 1983. A remedial investigation (RI) and feasibility study (FS) were carried out from 1986 through 1990. The significant results of the RI/FS at the Fisher-Calo Site included:

* The major source of contamination was the elevated levels of organic compounds in the groundwater and surface soils. This contamination was the result of improper waste handling and disposal practices at the Fisher-Calo Site.

* There were a number of soil source contamination areas at the Site. The primary areas of soil contamination were where drums had been stored or buried, or where disposal pits were present.

* The primary contaminants in the soil source areas were volatile organic compounds such as trichloroethene (TCE), 1,2-dichloroethene (DCE) and 1,1-dichloroethane (DCA); the semi-volatile bis (2-ethylhexyl) phthalate; and polychlorinated biphenyls (PCBs).

* Groundwater contaminants considered to be the major potential human health and environmental threats included the volatile organic compounds TCE, DCE and DCA.

* Surface drums and buried drums at the Site often leaked, and were a significant human health and safety risk at the Site. As a result, it was appropriate to conduct emergency removal actions to examine, repackage and remove the drums from the Site.

The 1990 ROD and 1997 ROD amendment prepared by USEPA and the Indiana Department of Environmental Management (IDEM) outlined the remediation goals for the Fisher-Calo Site. These goals included protecting human health by preventing the contaminants in the soils from entering the groundwater; treating the groundwater in order to protect the public and private water supply wells in the area from contamination; reducing the soil and groundwater contamination in order to eliminate human health risks at the Site; identifying any additional buried or surface drums at the Site and removing them: and implementing access restrictions on the Fisher-Calo Site property.

III. SUMMARY OF RESPONSE ACTIONS

The major components of the 1997 ROD amendment at the Fisher-Calo Site, including those components in the 1990 ROD and 1992 CD which were updated due to the amended Site remedy are:

* Installation of security fences around the contaminated soil areas on the One-Line Road property, the Two-Line Road property and the Space Leasing property.

* Excavation and off-site disposal of PCB contaminated soils on the One-Line Road property. The soils were disposed off-site in a permitted hazardous waste landfill.

* Installation of air sparging injection wells and use of bioremediation in soil areas contaminated with semi-volatile organic compounds (SVOCs) on the One-Line Road property and Two-Line Road property.

* Soil vapor extraction of volatile organic compounds (VOCs) in contaminated soil areas on the One-Line Road property, the Two-Line Road property and the Space Leasing property. The soils are being treated, as outlined in the remedial design work plan, to allow attainment of established ground water cleanup levels.

* A buried drum investigation in two areas on the One-Line Road property and the Space Leasing property. Testing was done to determine where buried drums and/or containers may have come to be located. Drums, containers and container contents were excavated and properly disposed. Contaminated soils in the buried drum areas were identified and are being treated.

* Installation of an extraction well network to remove contaminated groundwater. Following extraction, the contaminated groundwater is pumped through a piping system to a groundwater treatment facility. The groundwater is treated by air stripping in order to meet appropriate USEPA and State of Indiana requirements. After treatment, the water is discharged into nearby Travis Ditch.

* Installation of a groundwater monitoring well system to determine the effectiveness of the remedy, and provide public health and safety. The monitoring well system is being used to

ensure that the treatment system contains the Site groundwater plumes, and will be utilized until groundwater drinking standards are met.

* A new production well capable of producing at least 500 gallons per minute. This well is needed to replace the capacity of an existing production well (well A) previously closed due to contamination.

The major differences between the remedy outlined in the 1997 ROD amendment for Fisher-Calo and the remedy described in the 1990 ROD are as follows:

1) The 1997 amendment involves the excavation and off-site disposal of PCB contaminated soils at a permitted hazardous waste facility. The 1990 ROD required that PCB contaminated soils be excavated and incinerated.

2) The ROD amendment involves bioremediation of semi-volatile organic compound (SVOC) contaminated soils at the Site using air sparging injection wells. The 1990 ROD required that SVOC contaminated soils be excavated and incinerated.

3) The 1997 ROD amendment involves the treatment of volatile organic compound (VOC) contaminated soils using soil vapor extraction. The 1990 ROD listed soil flushing or soil vapor extraction as treatments for the VOC contaminated soils.

4) The amended ROD involves the extraction of contaminated groundwater, treatment, and discharge of treated groundwater to nearby Travis Ditch. The treated groundwater is required to meet Indiana discharge limits based on regulations through National Pollutant Discharge Elimination System (NPDES) permits before being discharged to Travis Ditch. The 1990 ROD listed the groundwater remedy as extraction, treatment and re-injection of treated groundwater to the underlying aquifer.

Buried drum investigations carried out at the One-Line Road and Space Leasing properties during the remedial design revealed approximately 3500 buried drums. These drums and contents were excavated, overpacked and sampled in 1994. The 3500 drums and contents were then consolidated, removed and disposed off-site from September to December of 1995. This drum removal began the remedial action at the Fisher-Calo Site. The soil areas at the One-Line Road and Space Leasing properties where the drums were excavated then became part of the Site soil remedy, and an additional fourth groundwater plume at Space Leasing became part of the groundwater remedy. The PCB contaminated soil cleanup was completed in January 1996 when approximately 500 cubic yards of the soil was excavated and disposed off-site in a hazardous waste landfill.

The groundwater pump and treatment system for the Fisher-Calo Site began operating in February of 1998. The treatment system consists of 15 extraction wells located over four different groundwater plumes and two miles of transmission line. A carbon dioxide injection

system was constructed and added to the One-Line Road groundwater treatment system in December 1999. The CO2 system was added in order to reduce the high levels of iron precipitation that were occurring in the extraction wells. An additional groundwater extraction well, EW1N-4, was added to the north end of the One-line Road system in January 2000 to achieve total capture of the groundwater plume located there. The nearby extraction well EW1N-3 was decommissioned when EW1N-4 went on-line.

The Fisher-Calo Site group is required to perform sampling at the four groundwater plumes and treatment plant for a minimum of 10 years and up to 30 years, until groundwater compliance standards are met. The treated groundwater must also be sampled as long as the treatment plant operates to assure that it meets Indiana permit requirements before being discharged into Travis Ditch.

The soil treatment systems began operating at the Fisher-Calo Site in May 1998, with the exception of Area A3 which had been operating since the beginning of 1996. The Site responsible party group is required to perform soil boring and system emissions sampling until VOC and SVOC soil compliance levels are met at each area. Soil treatment has currently been completed at four of the five soil source areas based on confirmation soil sampling. Area A3 soil treatment on Two-Line Road property was completed in August 1998. The Space Leasing Soil Area treatment was completed in September 1999. Area Al on Two-Line Road and Area C2 on One-Line Road were completed in December 1999. The security fence at Area C2 is scheduled to be taken down in the near future, since the area is located within a larger secured fence area. The soil treatment system at the KIDP Area on One-Line Road property remains operational to date. It is expected that all soil treatment will be completed at the Fisher-Calo Site before the next scheduled Five-Year Review in 2005.

IV. REMEDIAL OBJECTIVES

Groundwater and surface water remedial objectives at the Fisher-Calo Superfund Site are the attainment of U.S. EPA primary and secondary drinking water maximum contaminant levels (MCLs) by utilizing groundwater treatment, and the elimination of any excess lifetime cancer risks according to State of Indiana water quality requirements. Soil remedial objectives include the elimination of any excess groundwater leachate, direct contact, ingestion and inhalation human health risks by treatment of contaminated soils. Soil clean up levels for the Fisher-Calo Site were determined using a groundwater leachate model, in order to eliminate additional risks for groundwater contamination.

Excess human health risks due to contaminated groundwater are being addressed by the groundwater remedy at the Site. The extraction and treatment system has been on-line since February 1998, and continues to operate at approximately 800 gpm. The four groundwater plumes are being adequately contained, and contaminant mass is being removed from the aquifer. Since it is unlikely that groundwater clean-up standards will be met in the near future, the groundwater treatment system will probably be in place during the next scheduled Five-Year

Review in 2005.

The Fisher-Calo soil remedy has been completed at four of the five soil treatment areas, the PCB removal area, and the drum removal locations. The KIDP Area on One-Line Road remains the only soil source area to be completed, and a soil treatment system continues to operate there to date. Completion of this one remaining soil clean-up is expected before the 2005 Five-Year Review at the Site.

V. APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Five-Year Review guidance establishes policy for the U.S. EPA to review and analyze the remedial action as it is effected by newly promulgated or modified Federal and State environmental laws. ARARs listed in the 1990 ROD and updated in the 1997 ROD Amendment pertaining to groundwater remediation, soil remediation, surface water discharge and air discharge at the Fisher-Calo Superfund Site, remain essentially unchanged and are still considered relevant and appropriate.

Discharge water from the Fisher-Calo treatment plant to Travis Ditch is regulated by State of Indiana discharge limits based on regulations through NPDES permits. The Safe Drinking Water Act, the Clean Air Act, the Clean Water Act, The Resource Conservation and Recovery Act (RCRA), and appropriate Indiana State laws apply to remedial actions taken at the Site. Since incineration was not utilized at Fisher-Calo, the RCRA Subtitle C ARARs would no longer apply.

VI. SUMMARY OF SITE VISITS

The Fisher-Calo Superfund Site has been visited numerous times during the operation and maintenance period. The most recent visit and inspection was on June 6, 2000. During the visit the Site groundwater extraction & treatment system, the CO2 injection system on One-line Road, and the soil treatment system at the KIPD Area on One-Line Road were operational. Security fences at all the five soil treatment areas were intact and locked, and the groundwater treatment plant was secure. The Fisher-Calo Responsible Party Group contractor was beginning a scheduled groundwater sampling event at the Site.

VII. AREAS OF NONCOMPLIANCE

The remedy selected in the 1990 ROD and updated in the 1997 ROD Amendment has been implemented and remains functional, operational and effective. As long as the Fisher-Calo Responsible Party Group continues to operate, maintain and monitor the Site groundwater extraction, treatment and discharge system, the contamination in the four groundwater plumes should continue to be contained and be reduced in the aquifer. The soil treatment system at the KIDP Area on One-Line Road assures soil contamination is being treated, and additional groundwater leachate risks are avoided.

VIII. RECOMMENDATIONS/TECHNOLOGY

U.S. EPA recommends that the Fisher-Calo Responsible Party Group continue to operate and maintain the groundwater extraction, treatment and discharge system to ensure continued capture and reduction of groundwater contaminants until clean up standards are achieved. Groundwater monitoring sampling, with any approved U.S. EPA and IDEM modifications, should continue until the remediation requirements outlined in the Site ROD, ROD Amendment and CD are achieved.

U.S. EPA recommends continued operation, maintenance and monitoring of the soil treatment system at the KIDP Area on One-line Road until soil clean-up standards are achieved in this area. Confirmation soil boring sampling, as previously approved, would be needed to verify completion of the KIDP Area clean-up.

IX. STATEMENT ON PROTECTIVENESS

The groundwater and soil treatment systems at the Fisher-Calo Site continue to operate, and provide adequate protection of human health and the environment. The Site monitoring network program combined with Site security measures provide additional assurance of protection to human health and the environment.

X. NEXT REVIEW

Since hazardous substances, pollutants or contaminants in groundwater are likely to remain above Site remedial action standards, the Fisher-Calo Site will remain a Superfund National Priorities List (NPL) Site and require another U.S. EPA Five-Year Review during fiscal year 2005. Continued restrictions on Site land and groundwater use will remain until Fisher-Calo Site soil and groundwater clean-up standards are achieved.

XI. IMPLEMENTATION REQUIREMENTS

Prior to the next Five-Year Review, the above mentioned recommendations should be implemented and maintained.

Wm. E. Muno

William E. Muno, Director
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9/7/00

Date

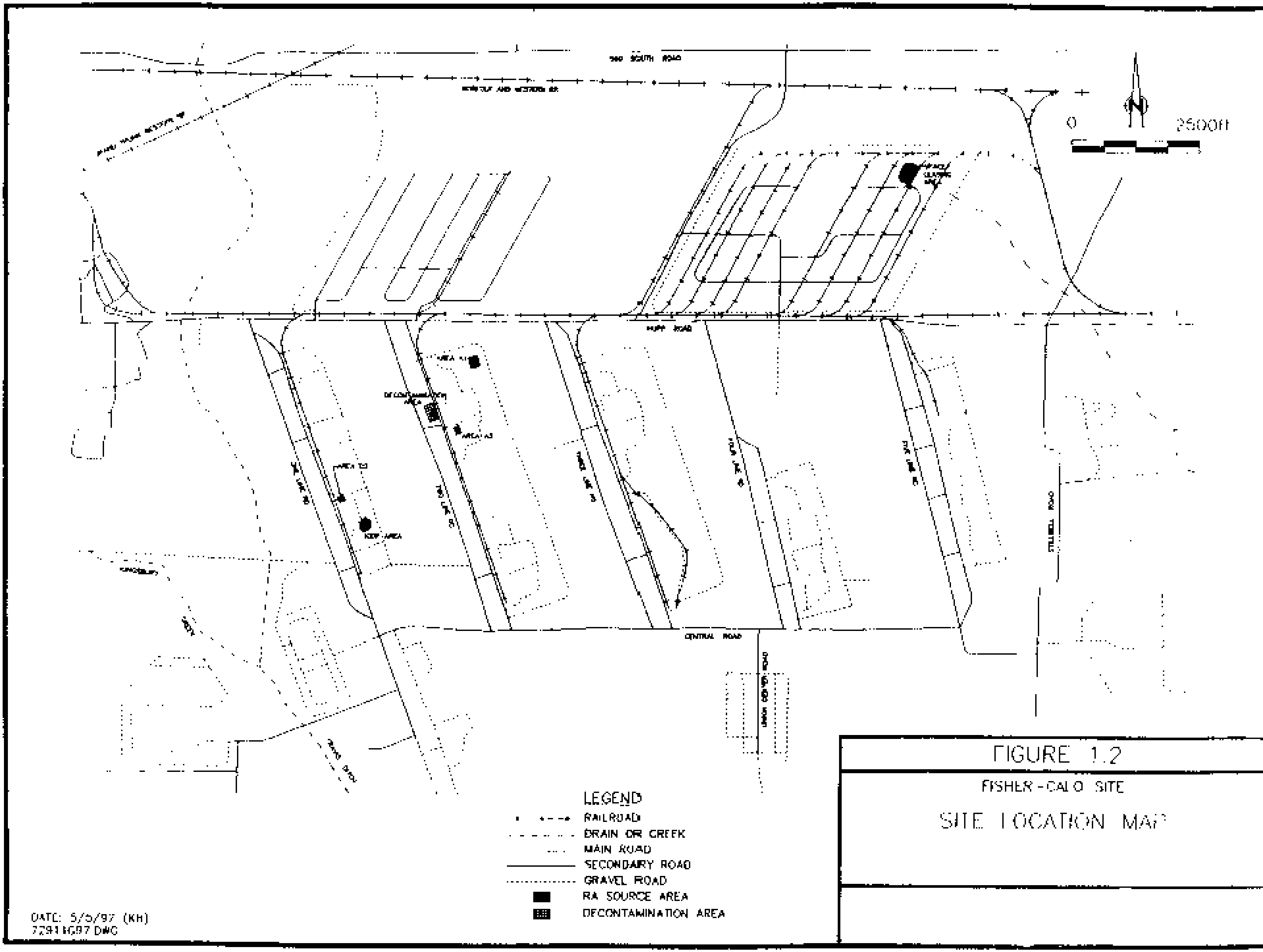

FIGURE 1.2
FISHER - CALO SITE
SITE LOCATION MAP

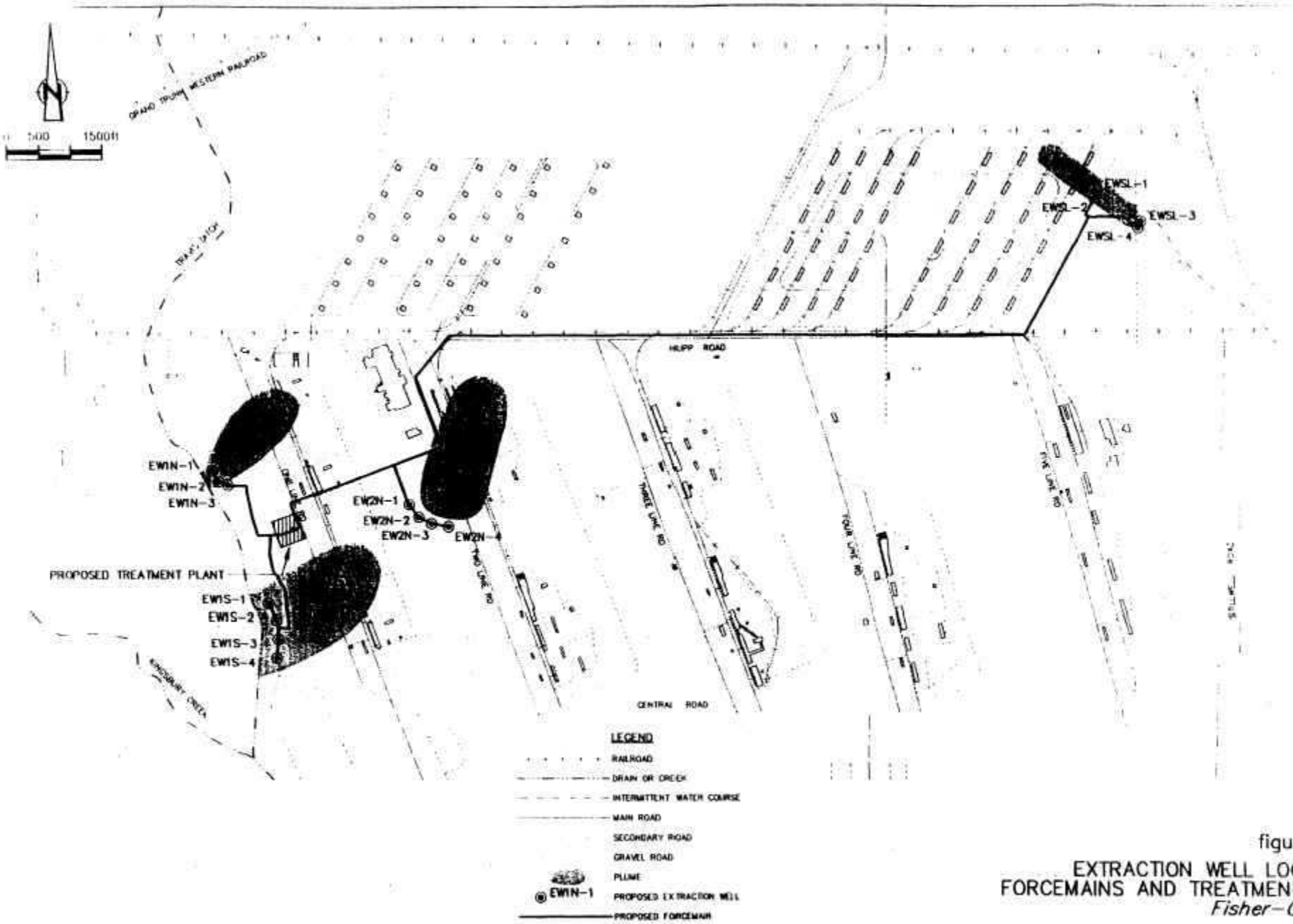

figure ES-7
EXTRACTION WELL LOCATIONS,
FORCEMAINS AND TREATMENT PLANT
Fisher-Calo Site